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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,144	11/15/2000	Christian Braun	ALL.010	8571
20987	7590	10/20/2004	EXAMINER	
VOLENTINE FRANCO, & WHITT PLLC			WIMER, MICHAEL C	
ONE FREEDOM SQUARE			ART UNIT	
11951 FREEDOM DRIVE SUITE 1260			PAPER NUMBER	
RESTON, VA 20190			2828	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/712,144

Applicant(s)

BRAUN ET AL.

Examiner

Michael C. Wimer

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-60 and 63-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/4/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 41-56,63-66,69-72 is withdrawn in view of the newly discovered reference(s) to Clarke (5777581) and Sanford et al. (5294939).

Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 41-43,48-51,54-56 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke (5920809).

Regarding Claims 41-43,48-51 and 54-56, Clarke shows an antenna device, for example in Fig. 3 provided for receiving RF radiation, installable in and connectable to a portable radio communication terminal device (e.g., a television receiver in a cellular system). It would have been obvious to the skilled artisan to employ the antenna in a transmission device, particularly since Clarke suggests and mentions cellular telephony in column 1, lines 19-42 with regard to multi-path fading.

The antenna device of Clarke comprises an antenna structure 4 capable of being connected to and disconnected from each other, and being switchable between a plurality of predefined antenna configuration states, in each of which multiple ones of the plurality of antenna elements are connected to each other, and each being distinguished by a set of radiation parameters; and a switching device 8-1,8-2 (controlled by device 9) provided for selectively switching the antenna structure between the plurality of predefined antenna configuration states, wherein each of the plurality of predefined antenna configuration states is optimized for operation of the antenna device in the portable device in a respective physical operation environment external to the device.

A skilled artisan recognizes as obvious the predefined configuration states as the array is used for spatial shifting of the antennas while maintaining the same radiation pattern. Similarly, the states are optimized for operation of the antenna device in a respective physical operation environment external to the device.

Regarding Claims 42 and 43, there are five arrays as recited.

Regarding Claim 56, the difference in the position of the antenna array between the ear and waist is what would allow spatial change of the arrays, and thus, such a physical change would allow the end arrays to change according to the signal level detected by the sensor 9. The use of MEMS are obvious to employ because they are widely used in the antenna art, in phased arrays.

4. Claims 41-56,63-66 and 69-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanford et al. (5294939).

Regarding Claims 41-56, 63-66 and 69-72, Sanford et al. show in Figures 3 and 4, an antenna device and method for transmitting RF radiation comprising an antenna structure comprising a plurality of antenna elements, patches 11 in Fig. 3, capable of being connected to and disconnected from each other and being switchable between a plurality of predefined antenna configuration states, in each of which multiple ones of the plurality of antenna elements are connected to each other and each of which being distinguished by a set of radiation parameters; and a switching device 18 for selectively switching the antenna structure between a plurality of predefined antenna configuration states, with different ground connections 12 or feed line 13. Figure 4 shows the configuration states, designated as active element bands, A and B. It would have been obvious to the skilled artisan to employ the arrangement of Sanford et al. in a portable radio communication terminal device for receiving or transmitting signals in particular directions. There are more than three antenna elements, and three configuration states. Since variable reactances are employed, a wider bandwidth is realized as suggested in column 7, lines 56-60. It would have been obvious to employ different frequency bands and electrical lengths, as recited in Claims 46, 47. It would have been obvious to employ different types of antenna elements in lieu of all patches in order to provide different bandwidths, radiation patterns, etc. The use of MEMS switches would have been obvious to the skilled artisan because they are stock shelf devices widely employed in the antenna art.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 41-75 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-59 of U.S. Patent No. 6,392,610. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to employ the antenna structure, switching, measuring structure, and control device in the claimed system in the patent.

Allowable Subject Matter

7. Claims 57-62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims would be allowable if the above double patenting rejection is also obviated.

8. Claims 67,68 and 73-75 would also be allowable if the double patenting rejection is obviated.

Response to Arguments

9. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Wimer
Primary Examiner
Art Unit 2828